UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,019	02/25/2002	Edward G. Tiedemann JR.	010475	8463

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EXAMINER
HALIYUR, VENKATESH N

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/084,019	TIEDEMANN ET AL.
	Examiner	**Art Unit**	
	Venkatesh Haliyur	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>2/25/2002</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1 – 19 have been examined.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-11,15-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Ponnekanti [US Pub: 2002/0150065].

Regarding claim 1, Ponnekanti disclosed "Communication Systems" and a method for wireless communication system comprising, a quality measurement unit [items 262,264 of Fig 11] for iteratively measuring link quality of a communication link, a quality message processing unit [item 266 of Fig 11] for generating a quality message based on the measured link quality and for generating a parity check (BER) corresponding to the quality message, and a differential analyzer for determining changes in the measured link quality [Figs 11-16, Para 0001-0119, Para 0216-0224].

Regarding claims 2,6, Ponnekanti disclosed that the link quality is measured as carrier to interference (signal to noise interference) of a received signal and each quality message includes carrier to interference information of a received signal at a receiver [Para 0214–0219].

Regarding claim 3, Ponnekanti disclosed that the quality measurement unit generates a quality metric, and wherein the remote station applies a sector cover to the quality metric [Para 0218–0221].

Regarding claims 4,5, Ponnekanti disclosed that the communication system comprises generating quality messages at a first frequency, the quality messages providing information on the quality of a communication link, and generating a parity check for each of the quality messages and generating differential indicators at a second frequency, the differential indicators indicating changes in the quality of the communication link, wherein the second frequency is greater than the first frequency [Para 137-150, 0244-0265].

Regarding claim 7, Ponnekanti disclosed a feedback indicator bit length is one or more bits in the communication system [Para 0149,0150,0206-0224].

Regarding claims 8,9,11 Ponnekanti disclosed that communication system comprises estimating a channel condition over a first time window [relative timing], comparing the estimated channel condition to a first threshold value, determining a transmission rate for transmission of quality messages based on the comparison, and transmitting quality messages at the transmission rate and the first time window is dynamically adjusted based on operation of the system [Para 0021-0092,0222-0232].

Regarding claim 10, Ponnekanti disclosed calculating an average channel condition and calculating variance of the channel condition [Para 0212-0225].

Regarding claim 15, Ponnekanti disclosed that the communication system comprising processing unit, operative for executing computer-readable instructions, and

a memory storage unit adapted to store a plurality of computer-readable instructions for,

estimating a channel condition over a first time window; comparing the estimated

channel condition to a first threshold value, determining a transmission rate for

transmission of quality messages based on the comparison, and transmitting quality

messages at the transmission rate [Figs 11-16, Para 0001-0119,137-150, 0216-0224,

0244-0265].

Regarding claims 16,17, Ponnekanti disclosed that the wireless communication

system supporting a plurality of carriers (signals/beams), a method comprising

determining an average channel condition among the plurality of carriers, comparing the

average channel condition to a first threshold value, determining a transmission rate for

transmission of quality messages based on the comparison, and transmitting quality

messages at the transmission rate and assigning a weight to each of the plurality of

carriers, wherein the average channel condition is a weighted average [Figs 11-16, Para

0001-0265].

Regarding claims 18,19, Ponnekanti disclosed wireless communication system

comprising, processing unit, operative for executing computer-readable instructions;

and a memory storage unit adapted to store a plurality of computer-readable

instructions for determining a best channel condition associated with a first frequency;

and generating a quality message, the quality message including a quality indicator and

a frequency indicator, the frequency indicator identifying the first frequency and the

frequency indicator is a pointer to select the first frequency from a plurality of

predetermined frequencies [Figs 1-16, Para 0001-0265].

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art
> are such that the subject matter as a whole would have been obvious at the time the invention was made to
> a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

Claims 12-14, are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ponnekanti [US Pub: 2002/0150065] in view of Zhang et al. [US Pub: 2004/0013103].

Regarding claims 12-14, Ponnekanti disclosed in the invention of "Communication

Systems" for processing wireless communication signals, a base station comprising,

receive circuitry operative to receive feedback signals including a quality message with

a parity check, and differential indicators, the quality message periodically providing a

quality metric of a forward link, wherein the indicators track the quality metric between

successive quality messages, a memory storage unit operative to store a quality

message received on the feedback signal, and a differential analyzer to update the

quality message stored in the memory storage unit in response to the differential

indicators and the parity check and further disclosed that the system comprises

processing unit, operative for executing computer-readable instructions, and a memory

storage unit adapted to store a plurality of computer-readable instructions for,

generating quality messages at a first frequency, the quality messages providing

information on the quality of a communication link, and generating a parity check (BER)

for each of the quality messages and computer-readable instructions are further

adapted for generating differential indicators at a second frequency, the differential

indicators indicating changes in the quality of the communication link, wherein the

second frequency is greater than the first frequency, but fails to disclose specifically a

reverse link on which the feedback signals are received [Figs 11-16, Para 0001-

0119,137-150, 0216-0224, 0244-0265].

However, Zhang et al. disclosed in their invention of "Communication of Control

Information in Wireless Communication Systems" a method for reverse link feedback

channel to receive quality message/indication of the forward channel condition [Para

003-0017, 0031-0033, abstract]

Therefore it would have been obvious for one of ordinary skill in the art at the time

the invention was made to use the teachings of Zhang et al. on the method of using

reverse link feedback channel in the communication system of Ponnekanti to include

the method to receive signals on a reverse link, including a quality message.

Conclusion

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. The prior art in reference here are Ponnekanti and Zhang et al.

4.   Any inquiry concerning this communication or earlier communications should be

directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616.

The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached @ (571)-272-3134. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

5.　　　Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

Ajit Patel
Primary Examiner